THE JAPANESE ROLE IN WILDLIFE TRADE

A review of the imports to Japan of Appendix II species previously identified as being traded at significant levels

Prepared for the Environment Agency

under contract to TRAFFIC Japan

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Introduction

Under the direction of the CITES Technical Committee a review was undertaken in 1985 of trade in species of animals listed in CITES Appendix II. 143 species were identified as being traded at significant levels over the period 1980-1982 and further work was carried out to investigate whether the trade was detrimentally affecting their wild populations. The results of this review were published in three volumes in 1988. The species were assigned to one of three categories: "problem", where the levels of trade were believed to be threatening the wild populations or where some other serious CITES enforcement problem was evident; "no problem", where the available evidence suggested that there was no significant threat; and "possible problem", where insufficient evidence was available to make a determination one way or the other.

The current report is intended to investigate the role of Japan in the international trade in the 143 species previously identified as being traded at significant levels. To this end, the world net trade was calculated for the period 1983-1988 for live animals, skins, sides and plates for each of the 143 species. The number of each commodity imported to Japan was calculated as a percentage of the total world trade and the results are shown in Tables 1 and 2. Species which were not reported as having been imported to Japan during this period have been omitted from the tables. Some of the trade in skins is reported in units other than whole skins. In these cases, approximate conversion factors (Table 3) were used to calculate the number of skins involved.

Japanese import controls were significantly strengthened in 1985 and so the total trade from 1985-1988 was calculated. Those species which were traded in substantial quantities and for which Japan accounted for more than 10% of the world trade are briefly reviewed.

In general, Japan does not import a very high percentage of live animals, but there are a few exceptions. Three primates used for biomedical research have been imported in relatively large numbers, *Saimiri sciureus, Macaca fascicularis* and *Saguinus labiatus*. A few South-East Asian parrots feature in the Japanese import trade, notably *Eos bornea, Loriculus galgulus, Lorius garrulus* and *Psittacula roseata.* Other species are *Agapornis personata* from East Africa and two tortoises, *Geochelone chilensis* and *Geochelone pardalis*.

In the case of the skin trade, Japan holds a much more important position in world trade, particularly with South-East Asian reptiles such as *Crocodylus novaeguineae, Crocodylus porosus, Varanus salvator, Python curtus, Python molurus bivittatus*, and *Python reticulatus*. A large percentage of the reported world trade in the skin of *Caiman crocodilus* is also destined for Japan, as is that of *Lama guanicoe, Rhea americana* and two species of *Manis*.

Imports of significant trade species to Japan (Live animals only)

	Species	1983	1984	1985	1986	1987	1988	Tot 85-8
G TOT	Cercopithecus petaurista	1		73	62	86	109	330
J TOT	Cercopithecus petaurista				10	4	4	18
%	Cercopithecus petaurista				16%	5%	4%	5%
G TOT	Colobus guereza	42	86	10	8	12	16	46
J TOT	Colobus guereza	0	7	0	0	4	4	8
%	Colobus guereza		8%			33%	25%	17%
G TOT	Colobus polykomos	6	2	1	5	7	8	21
J TOT	Colobus polykomos					2	2	4
%	Colobus polykomos					29%	25%	19%
G TOT	Equus zebra hartmannae	28	8	5	6	7	9	27
J TOT	Equus zebra hartmannae	0	1	0	0	0	4	4
%	Equus zebra hartmannae		13%				44%	15%
G TOT	Felis colocolo	1	1	1				1
J TOT	Felis colocolo	0	1	1	0	0	0	1
%	Felis colocolo		100%	100%				100%
G TOT	Felis lynx	44	15	31	26	234	43	334
J TOT	Felis lynx	6	0	1	0	0	0	1
%	Felis lynx	14%		3%				0%
G TOT	Felis manul	3	5	2	3	4	2	11
J TOT	Felis manul	2	4			2	2	4
%	Felis manul	67%	80%			50%	100%	36%
G TOT	Felis pardalis	5	14	7	13	13	5	38
J TOT	Felis pardalis	0	0	3	1	1	2	7
%	Felis pardalis			43%	8%	8%	40%	18%
G TOT	Felis wiedii	1		3	5	2	3	13
J TOT	Felis wiedii			2				2
%	Felis wiedii			67%				15%
G TOT	Lama guanicoe	43	22	31	29	15	37	112
J TOT	Lama guanicoe						12	12
%	Lama guanicoe						32%	11%
G TOT	Lutra perspicillata		2	2	2	15		19
J TOT	Lutra perspicillata	0	0	0	0	8	0	8
%	Lutra perspicillata					53%		42%
G TOT	Macaca fascicularis	27513	17662	23713	24235	25720	24791	98459
J TOT	Macaca fascicularis	2980	1642	2239	2318	2241	3943	10741
%	Macaca fascicularis	11%	9%	9%	10%	9%	16%	11%
G TOT	Saguinus labiatus	12	52	8	18	16	38	80
J TOT	Saguinus labiatus	12	47	6	12	1	6	25
%	Saguinus labiatus	100%	90%	75%	67%	6%	16%	31%
G TOT	Saguinus mystax	70	190	97	42	116	207	462
J TOT	Saguinus mystax	0	20	0	0	0	2	2
%	Saguinus mystax		11%				1%	0%
G TOT	Saimiri sciureus	3562	2529	4258	5029	2381	3294	14962
J TOT	Saimiri sciureus	1109	306	847	1297	678	1520	4342
%	Saimiri sciureus	31%	12%	20%	26%	28%	46%	29%
G TOT	Agapornis fischeri	53335	45100	60764	83519	108702	72308	325293
J TOT	Agapornis fischeri	8273	3923	0	7402	9253	7420	24075
%	Agapornis fischeri	16%	9%		9%	9%	10%	7%
G TOT	Agapornis personata	6065	2994	6700	3416	7936	10272	28324
J TOT	Agapornis personata	0	4	4068	1390	3273	2047	10778
%	Agapornis personata		0%	61%	41%	41%	20%	38%
G TOT	Alisterus amboinensis	264	1831	452	392	921	1336	3101
J TOT	Alisterus amboinensis		64			10	42	52
%	Alisterus amboinensis		3%			1%	3%	2%
G TOT	Alisterus chloropterus	267	308	87	139	420	806	1452
J TOT	Alisterus chloropterus	11	74			6	20	26
%	Alisterus chloropterus	4%	24%			1%	2%	2%
G TOT	Amazona aestiva	33523	37354	48722	44919	35583	58464	187688
J TOT	Amazona aestiva	1780	1493	1740	1457	1946	2746	7889
%	Amazona aestiva	5%	4%	4%	3%	5%	5%	4%
G TOT	Amazona albifrons	1203	2490	4591	4366	3551	6327	18835
J TOT	Amazona albifrons	0	0	5	93	0	0	98
%	Amazona albifrons			0%	2%			1%
G TOT	Amazona amazonica	15993	22495	15271	15671	5981	13262	50185
J TOT	Amazona amazonica	0	0	25	0	0	1	26
%	Amazona amazonica			0%			0%	0%
G TOT	Amazona autumnalis	3279	7594	5914	5616	4620	5752	21902
J TOT	Amazona autumnalis	11	153	6	78	0	0	84
%	Amazona autumnalis	0%	2%	0%	1%			0%
G TOT	Amazona farinosa	2367	5369	5017	3705	1230	2838	12790
J TOT	Amazona farinosa	0	1	12	35	0	0	47
%	Amazona farinosa		0%	0%	1%			0%
G TOT	Amazona finschi	2	11	3	8	53	39	103
J TOT	Amazona finschi		10					0
%	Amazona finschi		91%					
G TOT	Amazona ochrocephala	6020	11696	15593	10447	7827	10078	43945
J TOT	Amazona ochrocephala	6	40	397	270	185	607	1459
%	Amazona ochrocephala	0%	0%	3%	3%	2%	6%	3%
G TOT	Amazona tucumana	384	1813	2990	2742	2882	6302	14916

Table 1

Imports of significant trade species to Japan (Live animals only)

	Species	1983	1984	1985	1986	1987	1988	Tot 85-8
J	TOT Amazona tucumana			50	40		45	135
%	Amazona tucumana			2%	1%		1%	1%
G	TOT Amazona viridigenalis	99	3	3	18	115	85	221
J	TOT Amazona viridigenalis						2	2
%	Amazona viridigenalis						2%	1%
G	TOT Anodorhynchus hyacinthinus	287	132	27	66	50	14	157
J	TOT Anodorhynchus hyacinthinus	0	2	0	1	0	0	1
%	Anodorhynchus hyacinthinus		2%		2%			1%
G	TOT Aprosmictus erythropterus	408	635	618	485	582	1060	2745
J	TOT Aprosmictus erythropterus	30	39	24	10	27	13	74
%	Aprosmictus erythropterus	7%	6%	4%	2%	5%	1%	3%
G	TOT Ara ararauna	8635	3541	2976	3628	1477	2146	10227
J	TOT Ara ararauna	41	9	0	3	5	10	18
%	Ara ararauna	0%	0%		0%	0%	0%	0%
G	TOT Ara chloroptera	2736	2375	1719	2411	1162	1855	7147
J	TOT Ara chloroptera	0	13	0	0	20	0	20
%	Ara chloroptera		1%			2%		0%
G	TOT Ara manilata	1054	969	602	846	338	9106	10892
J	TOT Ara manilata			6				6
%	Ara manilata			1%				0%
G	TOT Aratinga acuticaudata	18652	15041	17890	14378	16258	18803	67329
J	TOT Aratinga acuticaudata	15					30	30
%	Aratinga acuticaudata	0%					0%	0%
G	TOT Aratinga aurea	2562	1901	6917	13440	11237	5554	37148
J	TOT Aratinga aurea	220						0
%	Aratinga aurea	9%						
G	TOT Aratinga canicularis	108	1264	1126	1240	2149	1550	6065
J	TOT Aratinga canicularis	0	0	0	127	0	0	127
%	Aratinga canicularis				10%			2%
G	TOT Aratinga holochlora	255	67	395	1211	525	766	2897
J	TOT Aratinga holochlora							0
%	Aratinga holochlora							
G	TOT Aratinga mitrata	12557	3977	19993	25454	17283	29108	91838
J	TOT Aratinga mitrata	0	1	0	0	0	20	20
%	Aratinga mitrata		0%				0%	0%
G	TOT Aratinga wagleri	9129	12309	2943	562	3	426	3934
J	TOT Aratinga wagleri	100						0
%	Aratinga wagleri	1%						
G	TOT Bolborhynchus orbygnesius	950	990	715	110	8		833
J	TOT Bolborhynchus orbygnesius		60					0
%	Bolborhynchus orbygnesius		6%					
G	TOT Brotogeris versicolorus	6584	1182	7146	10726	12681	9691	40244
J	TOT Brotogeris versicolorus				20			20
%	Brotogeris versicolorus				0%			0%
G	TOT Cacatua alba	13287	12258	7393	10212	13119	8167	38891
J	TOT Cacatua alba	147	54	41	0	104	91	236
%	Cacatua alba	1%	0%	1%		1%	1%	1%
G	TOT Cacatua galerita	502	299	272	272	1430	5507	7481
J	TOT Cacatua galerita	0	0	20	1	19	47	87
%	Cacatua galerita			7%	0%	1%	1%	1%
G	TOT Cacatua goffini	14234	10993	8651	10335	10230	12410	41626
J	TOT Cacatua goffini	553	112	70	25	55	30	180
%	Cacatua goffini	4%	1%	1%	0%	1%	0%	0%
G	TOT Cacatua moluccensis	9738	9722	8859	9575	11680	8934	39048
J	TOT Cacatua moluccensis	176	123	54	205	300	156	715
%	Cacatua moluccensis	2%	1%	1%	2%	3%	2%	2%
G	TOT Cacatua sulphurea	6445	8000	5898	7045	9757	11014	33714
J	TOT Cacatua sulphurea	246	191	329	246	851	677	2103
%	Cacatua sulphurea	4%	2%	6%	3%	9%	6%	6%
G	TOT Charmosyna pulchella	76	348	90	183	449	1462	2184
J	TOT Charmosyna pulchella		60				40	40
%	Charmosyna pulchella		17%				3%	2%
G	TOT Cyanoliseus patagonus	5065	3777	4189	3071	6390	5244	18894
J	TOT Cyanoliseus patagonus	25					70	70
%	Cyanoliseus patagonus	0%					1%	0%
G	TOT Eclectus roratus	423	70	3048	140	142	421	3751
J	TOT Eclectus roratus	0	0	0	60	0	0	60
%	Eclectus roratus				43%			2%
G	TOT Eos bornea	6123	11873	5443	6159	6994	6124	24720
J	TOT Eos bornea	575	805	549	550	720	542	2361
%	Eos bornea	9%	7%	10%	9%	10%	9%	10%
G	TOT Eos reticulata	7703	4730	1483	1452	2377	2753	8065
J	TOT Eos reticulata	420	135	40	30	240	44	354
%	Eos reticulata	5%	3%	3%	2%	10%	2%	4%
G	TOT Eos squamata	805	726	693	1000	1150	1671	4514
J	TOT Eos squamata	0	120	20	29	30	20	99
%	Eos squamata		17%	3%	3%	3%	1%	2%
G	TOT Forpus xanthops	236		22		64	5	91
J	TOT Forpus xanthops	20						0

Table 1

Imports of significant trade species to Japan (Live animals only)

	Species	1983	1984	1985	1986	1987	1988	Tot 85-8
%	Porpus xanthops	8%						
G TOT	Loriculus amabilis				12		1	13
J TOT	Loriculus amabilis				12			12
%	Loriculus amabilis				100%			92%
G TOT	Loriculus galgulus	912	763	4520	9363	8861	4636	27380
J TOT	Loriculus galgulus	0	0	1700	1600	1060	101	4461
%	Loriculus galgulus			38%	17%	12%	2%	16%
G TOT	Lorius garrulus	7968	5101	2946	3373	5389	7379	19087
J TOT	Lorius garrulus	609	489	176	346	586	2479	3587
%	Lorius garrulus	8%	10%	6%	10%	11%	34%	19%
G TOT	Nandayus nenday	39607	23365	21989	17917	21991	16889	78786
J TOT	Nandayus nenday	452					50	50
%	Nandayus nenday	1%					0%	0%
G TOT	Pionus chalcopterus	57	164	127	30		1	158
J TOT	Pionus chalcopterus	0	76	0	0	0	0	0
%	Pionus chalcopterus		46%					
G TOT	Pionus maximiliani	1922	3220	25698	14704	6574	4211	51187
J TOT	Pionus maximiliani	25	25	530	365	290	125	1310
%	Pionus maximiliani	1%	1%	2%	2%	4%	3%	3%
G TOT	Poicephalus senegalus	15142	16871	15186	30076	28478	25586	99326
J TOT	Poicephalus senegalus		60					0
%	Poicephalus senegalus		0%					
G TOT	Pseudeos fuscata	37	575	552	558	1087	2183	4380
J TOT	Pseudeos fuscata	0	67	20	0	6	45	71
%	Pseudeos fuscata		12%	4%		1%	2%	2%
G TOT	Psittacula derbiana	566	821	169	501	156	32	858
J TOT	Psittacula derbiana			26				26
%	Psittacula derbiana			15%				3%
G TOT	Psittacula longicauda	200	386	402	2890	1347	2340	6979
J TOT	Psittacula longicauda				60			60
%	Psittacula longicauda				2%			1%
G TOT	Psittacula roseata		150	31	104	3815	859	4809
J TOT	Psittacula roseata	0	0	0	0	260	275	535
%	Psittacula roseata					7%	32%	11%
G TOT	Psittacus erithacus	48382	47554	46737	47679	50205	60904	205525
J TOT	Psittacus erithacus	254	138	283	430	503	141	1357
%	Psittacus erithacus	1%	0%	1%	1%	1%	0%	1%
G TOT	Pyrrhura frontalis	6003	3170	5245	5662	5993	6047	22947
J TOT	Pyrrhura frontalis	65					30	30
%	Pyrrhura frontalis	1%					0%	0%
G TOT	Rhea americana albescens		16	6	4			10
J TOT	Rhea americana albescens	0	6	0	0	0	0	0
%	Rhea americana albescens		38%					
G TOT	Trichoglossus euteles	53	327	63	70	847	176	1156
J TOT	Trichoglossus euteles	15	20					0
%	Trichoglossus euteles	28%	6%					
G TOT	Trichoglossus flavoviridis	239	515	231	291	161	352	1035
J TOT	Trichoglossus flavoviridis	15	120			6		6
%	Trichoglossus flavoviridis	6%	23%			4%		1%
G TOT	Trichoglossus goldiei	12	1176	274	328	571	503	1676
J TOT	Trichoglossus goldiei			40		6	40	86
%	Trichoglossus goldiei			15%		1%	8%	5%
G TOT	Trichoglossus haematodus	7747	6940	3629	4779	6206	5156	19770
J TOT	Trichoglossus haematodus	745	737	297	549	545	424	1815
%	Trichoglossus haematodus	10%	11%	8%	11%	9%	8%	9%
G TOT	Geochelone chilensis	3034	5827	659	985	6	1	1651
J TOT	Geochelone chilensis	361	72	0	300	0	0	300
%	Geochelone chilensis	12%	1%		30%			18%
G TOT	Geochelone pardalis	191	48	1676	2057	5913	4610	14256
J TOT	Geochelone pardalis	16	12	73	27	465	1402	1967
%	Geochelone pardalis	8%	25%	4%	1%	8%	30%	14%
G TOT	Malacochersus tornieri	1		65	931	2579	1741	5316
J TOT	Malacochersus tornieri				34	104	275	413
%	Malacochersus tornieri				4%	4%	16%	8%
G TOT	Podocnemis expansa	2						0
J TOT	Podocnemis expansa	2						0
%	Podocnemis expansa	100%						
G TOT	Testudo graeca	41562	11015	332	2002	20922	4599	27855
J TOT	Testudo graeca	0	0	3	0	4	39	46
%	Testudo graeca			1%		0%	1%	0%
G TOT	Testudo hermanni	14397	7384	13378	3158	2080	35	18651
J TOT	Testudo hermanni	220	10	43	0	0	10	53
%	Testudo hermanni	2%	0%	0%			29%	0%
G TOT	Testudo horsfieldii	59866	40335	24016	5	76	20577	44674
J TOT	Testudo horsfieldii	50	0	0	0	4	93	97
%	Testudo horsfieldii	0%				5%	0%	0%
G TOT	Caiman crocodilus	5904	259	4159	3416	652	1039	9266
J TOT	Caiman crocodilus	32	1	30	76	0	82	188
%	Caiman crocodilus	1%	0%	1%	2%		8%	2%

Table 1

Imports of significant trade species to Japan (Live animals only)

	Species	1983	1984	1985	1986	1987	1988	Tot 85-8
G TOT	Crocodylus porosus	101		8		19	3	30
J TOT	Crocodylus porosus						1	1
%	Crocodylus porosus						33%	3%
G TOT	Chamaeleo gracilis			375	66	301	791	1533
J TOT	Chamaeleo gracilis					40		40
%	Chamaeleo gracilis					13%		3%
G TOT	Chamaeleo jacksonii			250	20	50	373	693
J TOT	Chamaeleo jacksonii	0	0	0	0	0	20	20
%	Chamaeleo jacksonii						5%	3%
G TOT	Iguana iguana	44660	53595	110824	33418	50027	106073	300342
J TOT	Iguana iguana	511	761	1027	64	554	2232	3877
%	Iguana iguana	1%	1%	1%	0%	1%	2%	1%
G TOT	Phelsuma cepediana	86	104	656	564	557	107	1884
J TOT	Phelsuma cepediana	8	4	0	0	0	20	20
%	Phelsuma cepediana	9%	4%				19%	1%
G TOT	Phelsuma dubia	245	300	247	50	10	145	452
J TOT	Phelsuma dubia	20	0	0	0	0	20	20
%	Phelsuma dubia	8%					14%	4%
G TOT	Phelsuma laticauda	918	851	2170	3740	2720	3687	12317
J TOT	Phelsuma laticauda	0	25	26	55	30	55	166
%	Phelsuma laticauda		3%	1%	1%	1%	1%	1%
G TOT	Phelsuma madagascariensis	194	627	1386	4267	2477	4549	12679
J TOT	Phelsuma madagascariensis	14	4	26	47	60	45	178
%	Phelsuma madagascariensis	7%	1%	2%	1%	2%	1%	1%
G TOT	Tupinambis spp.	40	47	227	2030	421	43	2721
J TOT	Tupinambis spp.	0	0	3	0	0	8	11
%	Tupinambis spp.			1%			19%	0%
G TOT	Varanus exanthematicus	671	1772	7544	5775	6542	11411	31272
J TOT	Varanus exanthematicus	6	15	140	98	65	72	375
%	Varanus exanthematicus	1%	1%	2%	2%	1%	1%	1%
G TOT	Varanus indicus			4		35	57	96
J TOT	Varanus indicus	0	0	4	0	0	2	6
%	Varanus indicus			100%			4%	6%
G TOT	Varanus niloticus	606	1288	2216	1050	1226	2829	7321
J TOT	Varanus niloticus	6	10	162	67	20	33	282
%	Varanus niloticus	1%	1%	7%	6%	2%	1%	4%
G TOT	Varanus salvator	1707	7579	4880	3502	11881	3531	23794
J TOT	Varanus salvator	114	436	385	269	390	581	1625
%	Varanus salvator	7%	6%	8%	8%	3%	16%	7%
G TOT	Boa constrictor	1942	4920	20073	9209	5110	5705	40097
J TOT	Boa constrictor	18	26	30	4	19	91	144
%	Boa constrictor	1%	1%	0%	0%	0%	2%	0%
G TOT	Eunectes murinus	389	392	339	747	229	454	1769
J TOT	Eunectes murinus	15	13	4	19	11	26	60
%	Eunectes murinus	4%	3%	1%	3%	5%	6%	3%
G TOT	Eunectes notaeus	31	23	35	170	71	59	335
J TOT	Eunectes notaeus	0	0	0	0	10	6	16
%	Eunectes notaeus					14%	10%	5%
G TOT	Python curtus	144	99	49	513	899	955	2416
J TOT	Python curtus	16	0	0	0	22	7	29
%	Python curtus	11%				2%	1%	1%
G TOT	Python molurus	1	11	6	46	49	3	104
J TOT	Python molurus				2			2
%	Python molurus				4%			2%
G TOT	Python reticulatus	6397	10135	16475	5017	10644	10495	42631
J TOT	Python reticulatus	158	146	1377	40	15	32	1464
%	Python reticulatus	2%	1%	8%	1%	0%	0%	3%
G TOT	Python sebae	271	258	1260	622	492	2575	4949
J TOT	Python sebae	0	5	21	7	10	11	49
%	Python sebae		2%	2%	1%	2%	0%	1%
G TOT	Ornithoptera caelestis					2598	700	3298
J TOT	Ornithoptera caelestis					456	260	716
%	Ornithoptera caelestis					18%	37%	22%

Imports of significant trade species to Japan (Skins, plates and sides)

	Species	Unit	Term	1983	1984	1985	1986	1987	1988	Tot 85-8
G TOT	Colobus polykomos		skins	307	30	10	1		245	256
J TOT	Colobus polykomos		skins							0
%	Colobus polykomos		skins							
G TOT	Conepatus humboldtii		plates	1652		2		19	1	22
J TOT	Conepatus humboldtii		plates					8		8
%	Conepatus humboldtii		plates					42%		36%
G TOT	Conepatus humboldtii		skins	5239	1390	2567	1217	1562	1236	6582
J TOT	Conepatus humboldtii		skins	8				1		1
%	Conepatus humboldtii		skins	0%				0%		0%
G TOT	Dusicyon culpaeus		skins	1180	345	187	116	97	64	464
J TOT	Dusicyon culpaeus		skins		1					0
%	Dusicyon culpaeus		skins		0%					
G TOT	Dusicyon griseus		plates	17178	66	420	4564	8034	6638	19656
J TOT	Dusicyon griseus		plates							0
%	Dusicyon griseus		plates							
G TOT	Dusicyon griseus		skins	287910	127772	96014	202870	165870	50058	514812
J TOT	Dusicyon griseus		skins	2	120	24	4		18	46
%	Dusicyon griseus		skins	0%	0%	0%	0%		0%	0%
G TOT	Equus zebra hartmannae		skins	208	419	749	708	821	509	2787
J TOT	Equus zebra hartmannae		skins		1		4	8	34	46
%	Equus zebra hartmannae		skins		0%		1%	1%	7%	2%
G TOT	Felis geoffroyi		plates		1			73		73
J TOT	Felis geoffroyi		plates							0
%	Felis geoffroyi		plates							
G TOT	Felis geoffroyi		skins	98370	25687	2301	12501	39595	17220	71617
J TOT	Felis geoffroyi		skins	1					60	60
%	Felis geoffroyi		skins	0%					0%	0%
G TOT	Felis lynx		plates	217	5	1986	574	172		2732
J TOT	Felis lynx		plates				62			62
%	Felis lynx		plates				11%			2%
G TOT	Felis lynx		skins	2768	6612	14564	21513	10070	12702	58849
J TOT	Felis lynx		skins	3		202	377	227	655	1461
%	Felis lynx		skins	0%		1%	2%	2%	5%	2%
G TOT	Felis lynx canadensis		plates	131	49	117	233	53	75	478
J TOT	Felis lynx canadensis		plates						42	42
%	Felis lynx canadensis		plates						56%	9%
G TOT	Felis lynx canadensis		skins	31863	15351	11912	8587	5546	7119	33164
J TOT	Felis lynx canadensis		skins	140	1	68		1	80	149
%	Felis lynx canadensis		skins	0%	0%	1%		0%	1%	0%
G TOT	Felis lynx lynx		skins	116	38		17			17
J TOT	Felis lynx lynx		skins		18					0
%	Felis lynx lynx		skins		47%					
G TOT	Felis pardalis		plates				52	6		58
J TOT	Felis pardalis		plates				50			50
%	Felis pardalis		plates				96%			86%
G TOT	Felis pardalis		skins	69532	4736	1420	674	346	207	2647
J TOT	Felis pardalis		skins	80	7	120	89			209
%	Felis pardalis		skins	0%	0%	8%	13%			8%
G TOT	Felis tigrina	kg	skins		606					0
J TOT	Felis tigrina	kg	skins		606					0
%	Felis tigrina	kg	skins		100%					
G TOT	Felis wiedii		plates				5			5
J TOT	Felis wiedii		plates				5			5
%	Felis wiedii		plates				100%			100%
G TOT	Felis wiedii		skins	8590	4657	308	2534	33	19	2894
J TOT	Felis wiedii		skins				14			14
%	Felis wiedii		skins				1%			0%
G TOT	Lama guanicoe		skins	5014	4779	539	4065	9247	2257	16108
J TOT	Lama guanicoe		skins		1	57			91	148
%	Lama guanicoe		skins		0%	11%			4%	1%
G TOT	Lama guanicoe	kg	skins			150			6432	6582
J TOT	Lama guanicoe	kg	skins						6432	6432
%	Lama guanicoe	kg	skins						100%	98%
G TOT	Manis crassicaudata		skins	706						0
J TOT	Manis crassicaudata		skins	700						0
%	Manis crassicaudata		skins	99%						
G TOT	Manis javanica		skins	13461	9446	35140	27196	12953	6615	81904
J TOT	Manis javanica		skins	460	1920	13751	12279	6079	6614	38723
%	Manis javanica		skins	3%	20%	39%	45%	47%	100%	47%
G TOT	Manis pentadactyla		skins	3947	4107	2498	1335			3833
J TOT	Manis pentadactyla		skins	1000		1000				1000
%	Manis pentadactyla		skins	25%		40%				26%
G TOT	Rhea americana albescens		skins	2637	715	19486	38480	1513	5890	65469
J TOT	Rhea americana albescens		skins			17572	34090			51662
%	Rhea americana albescens		skins			90%	89%			79%
G TOT	Rhea americana a	kg	skins	11033	18658	9477				9477
J TOT	Rhea americana a	kg	skins	11026	18658	9477				9477
%	Rhea americana a	kg	skins	100%	100%	100%				100%

Imports of significant trade species to Japan (Skins, plates and sides)

	Species	Unit	Term	1983	1984	1985	1986	1987	1988	Tot 85-8
G	TOT Caiman crocodilus		skins	1366408	1334548	1442867	606202	464440	692460	3205969
J	TOT Caiman crocodilus		skins	583975	476543	417377	210939	151336	299691	1079343
%	Caiman crocodilus		skins	43%	36%	29%	35%	33%	43%	34%
G	TOT Crocodylus novaeguineae		skins	29691	30812	43487	41692	39067	34807	159053
J	TOT Crocodylus novaeguineae		skins	25425	17075	31858	17720	24798	23400	97776
%	Crocodylus novaeguineae		skins	86%	55%	73%	43%	63%	67%	61%
G	TOT Crocodylus porosus			5495	5662	6571	6125	8431	10259	31386
J	TOT Crocodylus porosus			2050	2571	3132	1347	3610	6347	14436
%	Crocodylus porosus			37%	45%	48%	22%	43%	62%	46%
G	TOT Dracaena guianensis			51424	71541	27544	26639	2870	500	57553
J	TOT Dracaena guianensis			17271	19720	1695	0	0	0	1695
%	Dracaena guianensis			34%	28%	6%				3%
G	TOT Varanus exanthematicus			28045	14315	144460	44230	4297	76461	269448
J	TOT Varanus exanthematicus						12	90		102
%	Varanus exanthematicus						0%	2%		0%
G	TOT Varanus niloticus			280639	354701	444517	302790	713530	722532	2183369
J	TOT Varanus niloticus			490	11	30		1173	16947	18150
%	Varanus niloticus			0%	0%	0%		0%	2%	1%
G	TOT Varanus salvator			1098374	1222605	1218678	1216340	1880726	1616358	5932102
J	TOT Varanus salvator			415295	225954	312918	331033	662386	513550	1819887
%	Varanus salvator			38%	18%	26%	27%	35%	32%	31%
G	TOT Boa constrictor			145237	32517	20892	25591	4919	1403	52805
J	TOT Boa constrictor			36						0
%	Boa constrictor			0%						
G	TOT Eunectes murinus			9842	25331	10643	6829	10759	15505	43735
J	TOT Eunectes murinus					4000			204	4204
%	Eunectes murinus					38%			1%	10%
G	TOT Eunectes notaeus			17884	44419	22530	19110	7160	19839	68638
J	TOT Eunectes notaeus			0	0	253	2	1	0	256
%	Eunectes notaeus					1%	0%	0%		0%
G	TOT Python curtus			43929	42204	58303	83922	77293	172203	391720
J	TOT Python curtus			8238	9710	11023	13774	12101	7580	44478
%	Python curtus			19%	23%	19%	16%	16%	4%	11%
G	TOT Python molurus bivittatus			117630	156486	211414	54357	73730	55132	394634
J	TOT Python molurus bivittatus			16691	16382	19181	6526	14142	17602	57451
%	Python molurus bivittatus			14%	10%	9%	12%	19%	32%	15%
G	TOT Python reticulatus			478984	594895	539529	572204	738171	767306	2617211
J	TOT Python reticulatus			35413	60800	86641	62766	142459	121075	412942
%	Python reticulatus			7%	10%	16%	11%	19%	16%	16%
G	TOT Python sebae			615	749	2291	19704	13470	55166	90632
J	TOT Python sebae			1					1	3
%	Python sebae			0%					0%	0%

Table 3. Factors used to convert quantities of skins reported in units of length, area or weight to numbers of skins.

	Species...1 skin	kg	m	m^2
Lizards	Dracaena guianensis	.05	0.25	
	Tupinambis	0.04	0.25	
	Varanus niloticus Varanus salvator	0.07	0.25	0.09
	Varanus (other spp)	0.04	0.25	
Snakes	Boa	0.1	1.4	
	Eunectes murinus	0.15	2.1	
	Eunectes notaeus	0.1	1.4	0.28
	Python curtus	0.1	1.2	
	Python molurus Python reticulatus Python sebae	0.25	3.5	0.7
	Other snakes	0.05	1.2	
Crocodilians	Caiman crocodilus ssp	0.26♣	1	0.4
	Crocodylus novaeg. ssp	1.3♣	0.25	
	Crocodylus porosus	2.47♣		
Mammals	Manis javanica	0.2	0.3	

♣ Dixon *et al.* 1988.

Macaca fascicularis **Crab-eating Macaque**

Since 1985, Japan has accounted for 11% of the recorded world trade in live *Macaca fascicularis*. The highest trade was in 1988 when Japan imported 3943 monkeys, 16% of the world total.

Most of the world's trade originates in Indonesia and the Philippines, but in recent years Japan has been importing relatively greater quantities from the Philippines where there is a large captive-breeding facility. Indonesia imposes capture quotas for *M. fascicularis*, the annual quotas being 10 000, 8 500, 14 125 and 13 000 for the years 1985, 1987, 1989 and 1990 respectively.

Trade in *Macaca fascicularis* was classified as "no problem" in the previous review of significant trade in Appendix II species (Broad *et al.* 1988). Levels of trade have not increased substantially since that date, although the net trade originating in Indonesia has exceeded the capture quotas in some years.

The captive-breeding facility in the Philippines was reported to be intending to increase its capacity (Broad *et al.*, 1988), but virtually all of the *Macaca fascicularis* originating in the Philippines imported to Japan were reported to be wild-collected. It is not known what impact this level of trade would have on wild populations in the Philippines.

Reported countries of origin of live *Macaca fascicularis* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Australia				20	2	
Belgium					25	
Bolivia	25					
Canada	2		154	258		
China				45	70	
Country Unknown	527	15	4	1	10	2
Germany, FR					7	
Hong Kong		1		1		3
India		41				
Indonesia	14419	7937	8508	9903	10693	11783
Japan	3					
Kenya			15			
Laos					120	
Malaysia	3150	568	2			

Mauritius			50	400	958	1436
Netherlands		16	8	20	31	61
Panama						
Philippines	7490	7698	13485	12497	13744	11386
Singapore		1		2		
Sweden		8	13	3		
Switzerland		25	30	47	17	14
USSR						
UAE			1			
United Kingdom			50	50		
United States	1897	1352	1393	988	43	106
TOTAL	29496	19646	25698	26221	27707	26779
IMPORTS TO JAPAN						
Bolivia	25					
Indonesia	1937	1043	1275	981	817	1239
Malaysia	265	46				
Mauritius					80	100
Philippines	753	548	964	1335	1301	2577
Singapore				2		
United States		5			43	27

Saguinus labiatus **Red-chested Tamarin**

Since 1985, Japan has accounted for 31% of the recorded world trade in live *Saguinus labiatus*. Trade has been at a fairly low level: a maximum of 47 animals (90% of world trade) was imported to Japan in 1984.

In 1984, 77% of the small trade in this species originated in Bolivia; however, an export ban was implemented in Bolivia during 1984 and there were no recorded exports from range states until 1988 when 25 animals were exported from Peru.

Trade in this species was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Broad *et al.* 1988). This was due to a substantial trade from Bolivia, peaking at 2052 in 1981. If the exports from Peru remain at a low level it is unlikely that this species will be threatened by the trade.

Reported countries of origin of live *Saguinus labiatus* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Japan					2	
Netherlands				2	1	5
Bolivia	12	40				
United States		9	1	2		2
Finland		1				
United Kingdom		2	6	13	11	3
Canada			1			
Peru						25
France				1	2	3
Germany, FR						
Ireland						
TOTAL	12	52	8	18	16	38
IMPORTS TO JAPAN						
United Kingdom			6	10	1	1
Netherlands						5
Bolivia	12	38				
United States		9		2		

***Saimiri sciureus* Squirrel Monkey**

Since 1985, Japan has accounted for 29% of the recorded world trade in live *Saimiri sciureus*. The highest trade was in 1988 when Japan imported 1520 animals, 46% of the world total.

From 1984 onwards most (83%) of the world's trade has originated in Guyana. Guyana imposes export quotas for this species, the annual quota being 3000 in 1987/88.

Trade in *Saimiri sciureus* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Broad *et al.* 1988). Levels of trade have

fluctuated since then, but there has been no overall increase.

Reported countries of origin of live *Saimiri sciureus* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Argentina	100					
Australia					9	
Bolivia	2199	431		341	74	
Brazil		1				2
Canada			1	24		
Colombia		1				
Country Unknown	12			2	3	2
Ecuador						
French Guiana			15	7		2
Germany, FR			7		4	7
Guatemala	34					
Guyana	970	1816	3813	4389	1363	3179
Japan		20				
Netherlands		3	9	4		24
Peru	210	205	306	81	810	73
South Africa	1				4	
South America	4					
Suriname			75	116		
Sweden		11			30	
Switzerland			6	6	4	5
United Kingdom		2				
United States	32	39	26	59	80	
TOTAL	3562	2529	4258	5029	2381	3294
IMPORTS TO JAPAN						
Bolivia	1079	218				

Country Unknown	12					
Guyana	18	88	847	1297	678	1520

***Agapornis personata* Yellow-collared Lovebird**

Since 1985, Japan has accounted for 38% of the recorded world trade in live *Agapornis personata*. The highest trade was in 1985 when Japan imported 4068 birds, 61% of the world total.

Tanzania is effectively the only range state for this species and a ban on export from that country was implemented in March 1984. Most of the trade during the period 1985-1988 was reported as originating in Taiwan (49%) and the Netherlands (28%). The species is regularly bred in captivity, but not in sufficient numbers to account for the 10 272 birds traded in 1988. It is likely that some re-exportation of illegally captured birds is involved.

Trade in *Agapornis personata* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Inskipp *et al.* 1988). Although trade has decreased from the peak of 17 119 in 1982 it is still far higher than the level expected for a species that should be available only from captive-bred stocks.

Reported countries of origin of live *Agapornis personata* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Australia	80	88	2	50	154	174
Austria						4
Belgium	72	15	163	154	261	1577
Brazil		2				
Burundi				11	100	
Country Unknown	204	3	1		2	
Czechoslovakia			10	169	40	202
Denmark	2	35	71	14		10
Finland			20			
France			290	40		
German DR	30	74	357	131	142	1330
Germany, FR					2	2

Japan			5			
Kenya		500				
Macau			1			
Netherlands	30	1775	1642	928	1084	4363
Oman						10
Portugal						
South Africa	90	52	73	76	156	
Switzerland						5
Taiwan	460	200	4065	1761	5532	2551
Tanzania, UR	5077	250			450	
Togo				70		
United Kingdom				12		
United States	20					44
Zimbabwe					13	
TOTAL	6065	2994	6700	3416	7936	10272
IMPORTS TO JAPAN						
Brazil		2				
Netherlands		2	3		190	2046
Taiwan			4065	1390	3083	1

***Eos bornea* Red Lory**

Since 1985, Japan has accounted for 10% of the recorded world trade in live *Eos bornea*. The highest trade was in 1987 when Japan imported 805 birds, 7% of the world total.

Indonesia is the only range state for the species and virtually all of the recorded trade originates there. Indonesia imposes capture quotas for *Eos bornea*, the annual quotas being 10 000, 5000, 5000, 5750 and 3100 for the years 1985, 1987, 1988, 1989 and 1990 respectively.

Trade in *Eos bornea* was classified as "no problem" in the previous review of significant trade in Appendix II species (Inskipp *et al.* 1988). Levels of trade have decreased since then; however, the net trade originating in Indonesia has exceeded the capture quotas in at least 1987 and 1988, in the former year by 40%.

Reported countries of origin of live *Eos bornea* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Australia					2	
Austria			1			
Belgium	113					
Country Unknown				2	115	20
Germany, FR		1			4	
Guyana				10		
Hong Kong				1		
Indonesia	5947	11793	5116	5833	6744	6091
Malaysia					10	
Netherlands		6				
Saudi Arabia				1	1	
Singapore	39	33	311	284	100	10
South Africa				2		
Spain					2	
Sweden			15	26		
Taiwan	24				16	
Tanzania, UR		40				
United States						3
TOTAL	6123	11873	5443	6159	6994	6124
IMPORTS TO JAPAN						
Indonesia	545	805	303	310	694	542
Malaysia					10	
Singapore	30		246	240		
Taiwan					16	

Loriculus galgulus **Blue-crowned Hanging Parrot**

Since 1985, Japan has accounted for 16% of the recorded world trade in live *Loriculus galgulus*. The highest trade was in 1985 when Japan imported 1700 birds, 38% of the world total.

Most of the world trade originates in Malaysia (89%), although in 1987 Indonesia and Thailand contributed 6.7% and 11.7% respectively. Indonesia imposes capture quotas for *Loriculus galgulus*, the annual quotas being 3000, 300, 300, 900 and 1000 for the years 1985, 1987, 1988, 1989 and 1990 respectively.

Trade in *Eos bornea* was classified as "no problem" in the previous review of significant trade in Appendix II species (Inskipp *et al.* 1988). Trade in 1986 was more than double the 1985 level; in 1987 it remained high but dropped again in 1988.

The status of the species in Malaysia requires clarification, especially if exports continue at the 1986/87 level.

Reported countries of origin of live *Loriculus galgulus* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Country Unknown		2				
Indonesia	195	1	80	210	594	631
Malaysia	400	700	4440	9153	7148	3980
Singapore	155				81	
Thailand	162	60			1038	25
TOTAL	912	763	4520	9363	8861	4636
IMPORTS TO JAPAN						
Indonesia					10	1
Malaysia			1700	1600	1050	100

Lorius garrulus **Chattering Lory**

Since 1985, Japan has accounted for 19% of the recorded world trade in live *Lorius garrulus*. The highest trade was in 1988 when Japan imported 2479 birds, 34% of the world total.

Indonesia is the only range state for the species and virtually all of the recorded trade originates there. Indonesia imposes capture quotas for *Lorius garrulus*, the annual quotas being 5000, 2600, 2600, 5125 and 4000 for the years 1985, 1987, 1988, 1989 and 1990 respectively.

Trade in *Lorius garrulus* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Inskipp *et al.* 1988). Levels of trade have fluctuated since then, but have not shown an overall increase. Indonesian capture quotas were exceeded in 1987 and 1988, in the latter year by 182%.

Indonesian quotas for this species should be defined at island level instead of at province level, and its status should be determined on each of the eight islands that it inhabits.

Reported countries of origin of live *Lorius garrulus* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Asia			8			
Belgium	71					
Burma						10
Country Unknown		30			127	3
Germany, FR	1			3		
Indonesia	7836	4791	2739	3153	4930	7339
Malaysia	50				70	
Netherlands		2				
Philippines	2					
Singapore	8	278	159	191	192	25
South Africa				1		2
Sweden			40	20		
Taiwan				5	10	
Thailand					60	
TOTAL	7968	5101	2946	3373	5389	7379
IMPORTS TO JAPAN						
Burma						10
Country Unknown					36	

Indonesia	609	211	55	210	460	2469
Malaysia					20	
Singapore		278	121	131		
Taiwan				5	10	
Thailand					60	

***Psittacula roseata* Blossom-headed Parakeet**

Since 1985, Japan has accounted for 11% of the recorded world trade in *Psittacula roseata*. The highest trade was in 1988 when Japan imported 2756 birds, 32% of the world trade.

Until 1987 Thailand was virtually the only exporter of this species. However, in that year Viet Nam emerged as the major exporter (79%), and remained important in 1988 (59%).

Trade in *Psittacula roseata* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Inskipp *et al.* 1988). The trade in 1987 was 37 times greater than that in 1986. There is virtually no recent information about the status of the species in Viet Nam. This should be clarified if the present level of trade continues.

Reported countries of origin of live *Psittacula roseata* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Burma						
China			1			
India						
Indonesia						155
Netherlands						
Singapore						4
[illegible]		150	[illegible]	104	315	[illegible]
Viet Nam					3000	500
TOTAL		150	31	104	3815	859

IMPORTS TO JAPAN						
Burma						
Indonesia						155
Thailand					180	120
Viet Nam					80	

***Geochelone chilensis* Chaco Tortoise**

Since 1985, Japan has accounted for 18% of the recorded world trade in live *Geochelone chilensis*. The highest trade was in 1983 when Japan imported 1361 animals, 12% of the world total.

Almost all recent trade originates in Argentina.

Trade in *Geochelone chilensis* was classified as a "problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988). Recorded trade decreased from 5827 in 1984 to 1 in 1988. Unless it increases again substantially trade cannot be regarded as a threat to the species.

Reported countries of origin of live *Geochelone chilensis* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Argentina	2928	5821	655	985		1
Bolivia	100					
Chile			4		2	
Country Unknown	6				3	
Denmark					1	
USSR						
United States		6				
TOTAL	3034	5827	659	985	6	1
IMPORTS TO JAPAN						
Argentina	261	72		300		
Bolivia	100					

***Geochelone pardalis* Leopard Tortoise**

Since 1985, Japan has accounted for 14% of the recorded world trade in live *Geochelone pardalis*. The highest trade was in 1988 when Japan imported 1402 animals, 30% of the world total.

Almost all trade originates in Tanzania, where the species is totally protected under the Wildlife Conservation (National Game) Order, 1974.

Trade in *Geochelone pardalis* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988). Only 12 animals were recorded in trade in 1982 but this increased to 5913 in 1987. Clarification of the protected status of the species in Tanzania is required, along with an update on its status in that country.

Reported countries of origin of live *Geochelone pardalis* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Australia						
Burundi						5
Cayman Islands			2			
Country Unknown		1	1		5	
Germany, FR			2			
Japan	6					
Kenya		41	100			
Netherlands						
Somalia			2			
South Africa	34	6	50	4	121	49
Switzerland				4		
Tanzania, UR	150		1497	2049	5751	4556
Thailand					20	
United States	1		4		16	
Zimbabwe			18			

TOTAL	191	48	1676	2057	5913	4610
IMPORTS TO JAPAN						
Burundi						
Cayman Islands			2			
Kenya		12	2			
Netherlands						
Tanzania, UR	10		69	27	445	1402
Thailand					20	

Ornithoptera caelestis

Since 1985, Japan has accounted for 22% of the recorded world trade in live *Ornithoptera caelestis* (note that the trade in live specimens constituted 72% of the total trade during the period). The highest trade was in 1987 when Japan imported 456 live butterflies, 18% of the world total.

All trade in this species originated in Papua New Guinea, where the species is ranched.

Trade in *Ornithoptera caelestis* was classified as "no problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988).

Reported countries of origin of live *Ornithoptera caelestis* derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Papua New Guinea					2598	700
TOTAL					2598	700
IMPORTS TO JAPAN						
Papua New Guinea					456	260

Lama guanicoe **Guanaco**

Since 1985, Japan has accounted for 98% of the recorded world trade in skins of *Lama guanicoe* reported by weight. All of this trade (6432 kg) took place in 1988, originating in Argentina, and although there is no currently available conversion factor to determine the number of skins involved, it seems likely that a considerable number of animals were involved.

Trade in *Lama guanicoe* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Broad *et al.* 1988). Concern was expressed that in Argentina harvesting appeared to be unselective and was unlikely to be sustainable in the long term. The situation apparently remains unchanged.

Reported countries of origin of *Lama guanicoe* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Argentina	5001	4777	538 150 kg	4056	9247	2257 6432 kg
Country Unknown	13			9		
Peru		2	1			
TOTAL	5014	4779	539 150 kg	4065	9247	2257 6432 kg
Imports to Japan						
Argentina		1	57			91 6432 kg

Manis javanica **Malayan Pangolin**

Since 1985, Japan has accounted for 47% of the recorded world trade in *Manis javanica* skins. The highest trade was in 1985 when Japan imported 13 751 skins, 39% of the world total.

In 1985 most of the trade originated in Thailand (42%) and Singapore (30%), but by 1988, when Japan was virtually the sole importer of this species, the origin of the trade had shifted to Lao (70%), Philippines (18%) and Singapore (12%).

Trade in *Manis javanica* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Broad *et al.* 1988). Levels of trade have decreased since that date but, given that the species is totally protected in the Philippines and that its status in Lao is unknown, there is still considerable cause for concern.

Reported countries of origin of *Manis javanica* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Burma					1409	
Country Unknown	4489	4675	50		2300	
India	250					
Indonesia	548	1079	3570	940	357	
Japan	835	500				
Lao People's DR					4020	4600
Malaysia	422	500	500			
Philippines	8	407	1570	777	779	1206
Singapore	2756		10725	12334		800
Taiwan			3500			
Thailand	4153	2285	14725	13145	4088	9
Togo			500			
TOTAL	13461	9446	35140	27196	12953	6615
IMPORTS TO JAPAN						
Country Unknown					2300	
Lao People's DR					3000	4600
Malaysia		500	500			
Philippines			1163		779	1205
Singapore			8043	12279		800
Taiwan			3500			
Thailand	460	1420	545			

Manis pentadactyla **Chinese Pangolin**

Since 1985, Japan has accounted for 26% of the recorded world trade in *Manis pentadactyla* skins. The highest trade was in 1985 when Japan imported 1000 skins, 40% of the world total.

Trade in *Manis pentadactyla* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Broad *et al.* 1988). Levels of recorded trade decreased to nil in 1987 and 1988 which may have been due to more accurate specific identification of the skins involved; much of the trade formerly reported originated in Indonesia, Singapore and Thailand where the species is either unknown or virtually unknown.

Reported countries of origin of *Manis pentadactyla* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Country Unknown	347	6		4		
Indonesia		870		556		
Singapore	1300	520	496	50		
Taiwan	1500		1000			
Thailand	1010	2861	1002	725		
TOTAL	4157	4257	2498	1335		
IMPORTS TO JAPAN						
Taiwan			1000			
Thailand	800					

Rhea americana albescens **Argentinian Greater Rhea**

Since 1985, Japan has accounted for 79% of the recorded world trade in *Rhea americana albescens* skins reported by number, and 100% of the skins reported by weight. The highest trade was in 1984 when Japan imported 18658 kg skins and in 1986 when 34090 skins (89% of the world total) were imported.

Although this subspecies is apparently restricted to Argentina and most (73%) of the trade originates there, trade is still reported as originating in other countries, particularly Paraguay (in 1986 5% of the Japanese imports were from Paraguay). All range states

for this species established an export ban on skins and other products in 1990 (CITES Notification to the Parties No. 574, dated 30 April 1990). However, recently (Notification No. 626, dated 8 April 1991), the Argentina CITES Management Authority has stated that they will allow the export of 90 000 skins during 1991, 1992 and 1993 at an average of 30 000 skins per year.

Trade in *Rhea americana albescens* was classified as a "problem" in the previous review of significant trade in Appendix II species (Inskipp *et al.* 1988). Although trade in previous years was a problem, hopefully the new controls will prove successful in regulating the trade.

Reported countries of origin of *Rhea americana albescens* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	9184	9185	1986	1987	1988
Argentina	112	11000 kg	11599 396 kg	36709	513	5118
Bolivia			90	10		
Country Unknown	115	715				
Indonesia					500	
Paraguay	2410 11033 kg	7658 kg	1443 9081 kg	1761		772
Singapore			6000			
Thailand					500	
United States			454			
TOTAL	2637 11033 kg	715 18658 kg	19586 9477 kg	38480	1513	5890
IMPORTS TO JAPAN						
Argentina		11000 kg	10406 396 kg	32410		
Paraguay	11026 kg	7658 kg	1166 9081 kg	1680		

Caiman crocodilus **Spectacled Caiman**

The estimation of the trade in *Caiman crocodilus* is complicated by the large number of units and terms used to describe the skins. However, using simplified conversion factors it appears that Japan has imported some 34% of the skin trade between 1985 and 1988. The bulk of the world trade recorded in CITES annual reports over this period was reported to have originated in Bolivia, Colombia, El Salvador, Guatemala, Paraguay and Venezuela. Most Japanese imports are said to have originated particularly in Paraguay, Bolivia and, in 1988, from unknown countries. The latter were re-exported from Singapore which has a reservation on the species and is believed to be one of the major destinations of skins illegally exported from South America.

Trade in *Caiman crocodilus* was classified as a "problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988) and it is still the species of reptile whose trade gives the greatest cause for concern.

Reported countries of origin of *Caiman crocodilus* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Argentina	8262	1668	1200	6000	54226	2633
Bolivia	43500	15325	171457	27352	24182	145786
Brazil		835				
British Virgin Is.			8000			
Canada	1					
Colombia	188094	108334	54644	35161	40708	77156
Costa Rica	12				2000	
Country Unknown	85906	79398	113711	58134	24891	83923
El Salvador	27982	174947	207644	118602	20066	7375
France	28		4135		1	
French Guiana	7887		489			
Germany, FR	15			197		
Guatemala		116234	349685	26288	12851	18649
Guyana	1130	0	108408	41350	47905	71523
Haiti	55					
Honduras		41705	59466		7907	15263
Hong Kong				6		
Indonesia	130			379	267	

Italy	300			50	632	
Japan	13		1940			
Korea, South					409	
Mexico		1			1	
Netherlands Antilles	4					
Nicaragua		1	246	210	863	100
Nigeria					187	
Panama	85155	18378	23845	253	66	76
Papua New Guinea						4269
Paraguay	909303	700028	212273	143635	45357	70345
Peru	235			2855		
Singapore				15867	105393	38111
South Africa	4	1			183	150
Spain			4			
Suriname	39				1	
Switzerland		1076				
Taiwan		152		1133	1382	
Thailand			1			
United Kingdom	5151		154			
United States	3200			635	972	
Venezuela		3487	125566	128095	73990	157102
Zimbabwe		28				
TOTAL	1366408	1334548	1442867	606202	464440	692460
IMPORTS TO JAPAN						
Argentina	521		1200	6000		
Bolivia	12995		73929	3935		57639
Colombia		5962	20265	15862	287	
Costa Rica					2000	
Country Unknown	12288	11431	51215		8835	79974
El Salvador			47474	70000		
Guatemala			10900	13700		
Guyana					19300	32102
Honduras						250

Panama	18293	8079				
Papua New Guinea						4269
Paraguay	534727	450919	187465	51516	9000	68886
Singapore				15867	105393	38111
Taiwan		152			1382	
United Kingdom	5151					
United States				635		
Venezuela			24930	33424	5139	18461

***Crocodylus novaeguineae* New Guinea Freshwater Crocodile**

Japan has been the world's largest consumer of skins of *Crocodylus novaeguineae*, importing some 61% from 1985-88. Most of the skins have come from Papua New Guinea and Indonesia, but a significant number came from Singapore in 1986 and 1987. Singapore started implementing CITES in February 1987 but retained a reservation on *Crocodylus novaeguineae*.

Trade in *C. novaeguineae* was classified as "No problem*" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988) on the basis that the illegal exports from Indonesia could be brought under control. The reports from the FAO programme in Irian Jaya suggest that illegal trade is still a serious cause for concern. The withdrawal of Singapore's reservation on the species, coupled with continued verification of export permits, could alleviate the problem.

Reported countries of origin of *Crocodylus novaeguineae* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Argentina			1232		2	
Asia					408	
Austria	12					
Country Unknown	1106	592		3		426
Guinea	24	165				
India			396			
Indonesia	6975	7632	17331	5494	1227	10053
Malaysia			115			

Panama					30	
Papua New Guinea	29471	21987	27916	29465	32071	24397
Singapore	324	686	2201	6730	5643	
South Africa		54				
Venezuela					35	
TOTAL	37912	31116	49191	41692	39475	34875
IMPORTS TO JAPAN						
Country Unknown						368
Indonesia	5810	6800	16025	979	1125	4888
Papua New Guinea	19575	9554	7940	2263	17622	18076
Singapore		363	2201	6730	5643	
South Africa		54				

***Crocodylus porosus* Saltwater Crocodile**

Overall from 1985-88 Japan imported 46% of the world trade in *Crocodylus porosus*, but took 62% of the trade in 1988. Most of the skins have come from Papua New Guinea, with lesser quantities from Indonesia and, in 1988 particularly, Australia and Thailand. The latter were presumably from farms.

The population of *C. porosus* in Indonesia was transferred to Appendix II in 1985 subject to quotas of 2000, 2000 and 4000 in the years 1986-88 respectively. The Papua New Guinean population has remained in Appendix II and the harvest is controlled principally by imposing size limits.

Trade in *C. porosus* was classified as a "Possible problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988). The reports from the FAO programme in Irian Jaya suggest that illegal trade is still a serious cause for concern and the population there has continued to decline.

Reported countries of origin of *Crocodylus porosus* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Australia		100	98	400	499	1324
Canada		3				
Country Unknown	529	46		2	6	

Indonesia	345	200	1094	851	949	2670
Malaysia	56					
Papua New Guinea	4562	5239	5005	3910	6506	5758
Philippines						
Singapore	3	74	74	948	71	57
Thailand			300	14	400	450
TOTAL	5495	5662	6571	6125	8431	10259
IMPORTS TO JAPAN						
Australia				105	128	1265
Country Unknown	368					
Indonesia			961	165	300	959
Papua New Guinea	1682	2497	1997	129	3011	3673
Singapore		74	74	948	71	
Thailand			100		100	450

***Varanus salvator* Water Monitor**

Japan is one of the major destinations of skins of *Varanus salvator*, and imported over half a million skins in both 1987 and 1988. The great majority have come from Indonesia or Singapore. The latter almost certainly represent skins re-exported from Indonesia. Lesser quantities have come from Malaysia and Thailand with a few from China in 1988. The skins from Sudan presumably represent misidentified skins of *V. niloticus* or *V. exanthematicus*.

Indonesia manages the harvest of wildlife under a quota system, the annual quotas for skins of *V. salvator* being 241 300, 379 500, 350 000 and 351 000 for the years 1985-88. Total exports have exceeded these quotas in all years and the Japanese import alone exceeded the quota in 1988. In spite of the quotas, it appears that Indonesia has been issuing export permits for greater numbers of skins.

Trade in *V. salvator* was classified as a "Possible problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988). A subsequent review of the trade and status of the species in South-East Asia (Luxmoore and Groombridge, 1990) showed that the species was still widespread in Indonesia but continued to be very heavily exploited. There was no evidence of what effect this may be having on the population.

Reported countries of origin of *Varanus salvator* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Asia	10				1000	
Austria			1047		67	
Bangladesh	2502	20214	525	5	0	10
Bolivia					100	
Canada	1			376		
China						1850
Colombia		1000				
Country Unknown	124813	128251	920	503	490597	9668
India	2215	847	243	2040	0	0
Indonesia	732445	795920	630020	700137	809865	1073161
Japan	8736	48	51758			
Malaysia	30348	25863	1391	14	69142	128703
Mali					627	
Nepal	578					
Nigeria	3000	100	111			
Panama	6					
Philippines	4478	3204	8084	11030	6980	2064
Singapore	35075	12305	307692	321456	268917	307622
Spain			1			
Sudan	3600	24				2000
Switzerland		24			500	
Taiwan		6500				
Thailand	82464	228096	215922	174507	228470	89758
Togo						
United Kingdom		30		5163		
United States	421	178	431	550	4461	
Viet Nam	15					
U.S. Virgin Islands				3		
TOTAL	1030707	1222605	1218145	1215784	1880726	1614836
IMPORTS TO JAPAN						

Bangladesh	2500	6214				
China						1850
Country Unknown					127022	
Indonesia	376389	213257	0	12957	231978	439664
Malaysia					24000	43100
Singapore	17531		299880	312341	268917	4470
Sudan						2000
Thailand	18875	6482	13038	5735	10469	22466

***Python curtus* Blood Python**

Python curtus is restricted in distribution to Sumatra, Borneo, Peninsular Malaysia and the extreme south of Thailand. Almost all of the skins in trade are reported to have come from Indonesia or Singapore, the latter were almost certainly re-exports from Indonesia. Overall, Japanese imports accounted for 11% of the world trade in skins, but the percentage involved fell from 1985 to 1988. This was due more to an overall increase in the world trade than to a decline in the Japanese imports.

Indonesia has imposed a capture quota of 25 000 for *P. reticulatus* for the years 1987 and 1988. Total exports were very much larger than this in both years.

Trade in *P. curtus* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988). A subsequent review of the trade and status of the species in South-East Asia (Groombridge and Luxmoore, 1990) showed that the species had a restricted distribution in Indonesia and continued to be very heavily exploited. There was no evidence of what effect this may be having on the population.

Reported countries of origin of *Python curtus* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Country Unknown	8258	9613	6		11680	
India	1					
Indonesia	34375	29357	46938	70148	57452	152591
Japan		59				
Malaysia						215

Singapore	1296	1534	11359	13774	8161	19397
Thailand		1642				
TOTAL	43929	42204	58303	83922	77293	172203
IMPORTS TO JAPAN						
Country Unknown					3362	
Indonesia	8238	9710			680	7580
Singapore			11023	13774	8059	

Python molurus bivittatus **Asian Rock Python**

Only one subspecies of *Python molurus* is in Appendix II, the nominate subspecies being in Appendix I. The majority of the world trade has come from Thailand, Singapore and Malaysia, with substantial quantities from Indonesia prior to 1986.

The species is protected in Indonesia and export permits are not normally issued. Thailand listed the species as protected in 1985 but continued to allow the export initially of old stock and subsequently of stock owned by two companies in Bangkok. Of particular concern are the exports from Malaysia in 1988. The species does not occur in the Peninsula, and its occurrence in Borneo is unconfirmed. The appearance of Malaysia as a declared source in 1987 and 1988 seems to be correlated with the introduction of new legislation in Thailand. It is likely that the skins have been smuggled over the border and re-exported from Malaysia.

Trade in *P. molurus bivittatus* was classified as a "Possible problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988). The restrictions on exports from Thailand introduced in 1985 appear to have had some effect in curtailing the trade but the emergence of other sources in South-East Asia should be monitored.

Reported countries of origin of *Python molurus bivittatus* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Asia		1				
Burma	26					
Canada				1		
China		233			856	950
Country Unknown	4020	2565	94		1082	475

Ghana		4				
Hong Kong			471	193		
Indonesia	17468	7185	3184	586	807	673
Italy					5	1032
Malaysia					1508	13337
Nigeria		13				
Singapore	621	1026	1071	1412	1420	10073
South Africa	5					
Taiwan	1	1690			3046	
Thailand	76690	122820	206020	51720	62915	26718
United Kingdom	1			3		
United States	34	14				
Venezuela	35					
Viet Nam	18729	20935	574	442	2091	1875
TOTAL	117630	156486	211414	54357	73730	55132
IMPORTS TO JAPAN						
Country Unknown					590	
Indonesia	1437	508				
Malaysia						4305
Singapore			414	847	1093	2631
Thailand	15254	15874	18767	5414	12459	10666
Viet Nam				265		

***Python reticulatus* Reticulated Python**

Python reticulatus is traded in greater numbers than any other species of Boid, and Japan imports some 16% of the world's trade in skins. Most of the imports have come from Indonesia, Singapore (presumably re-exports from Indonesia), Thailand and Malaysia.

Indonesia has imposed capture quotas of 100 000, 156 933, 140 000, and 140 000 skins of *P. reticulatus* for the years 1985-88. The total numbers of skins reported as originating in Indonesia have exceeded these quotas by a large margin in all years. Thailand was formerly a major source of skins of *P. reticulatus* but, in 1985, restricted exports to old stock. This was responsible for the progressive reduction in reported trade from that date onwards. The trade originating in Malaysia has increased sharply in 1987 and 1988 and this may be associated with the ban in neighbouring Thailand. Either the trappers

in Malaysia have been stimulated into catching more pythons or skins have been smuggled over the border from Thailand. Japan has also imported a small number of skins from Viet Nam and the Philippines.

Trade in *P. reticulatus* was classified as a "possible problem" in the previous review of significant trade in Appendix II species (Luxmoore *et al.* 1988). A subsequent review of the trade and status of the species in South-East Asia (Groombridge and Luxmoore, 1990) showed that the species was widespread in Indonesia and continued to be very heavily exploited. There was no evidence of what effect this may be having on the population but the generally rising levels of trade are of concern.

Reported countries of origin of *Python reticulatus* skins derived from CITES annual reports, 1983-1988.

WORLD TRADE	1983	1984	1985	1986	1987	1988
Africa		1				
Argentina	15	4	224			63
Asia	135					
Burma					912	
Canada			149			2
Chad			143			
China		160				
Côte d'Ivoire				2		
Country Unknown	38194	54862	3715	1004	174723	7897
Denmark	6	1	8			
France	630	100				
German DR	170					
Germany, FR				4		
Hong Kong				46		
India	1143	1916	3971		2	
Indonesia	313030	358997	253758	440393	405903	529892
Italy				2	11	503
Japan	1212	8710	1549			
Lao People's DR					20	
Malaysia	2701	5526	4859		21415	108929

Nepal	1265					
Nigeria			5			
Panama		77	707			
Paraguay	7					
Philippines	2152	869	3726	1497	877	816
Singapore	31942	8957	91008	59178	51969	96744
South Africa	374		30		122	2
Sudan	1		30			
Switzerland		8				
Taiwan	1654	807	202			
Thailand	83193	149617	175139	66919	79160	18241
Togo	466					
United Kingdom	226	66	18	30	16	
United States	13	49	8	10		
Viet Nam	368	441	16		1717	4182
TOTAL	478897	591168	539265	569084	736847	767272
IMPORTS TO JAPAN						
Argentina						63
Country Unknown					36472	5709
India		1270				
Indonesia	32677	42470			51096	82567
Malaysia					1240	21940
Philippines	40		828	1433	653	713
Singapore		129	78047	55934	49071	6781
Thailand	2696	16932	7750	5399	2641	1615
Viet Nam			16		1286	1687

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